

REMARKS/ARGUMENTS

Reconsideration and withdrawal of the outstanding grounds of objection and/or rejection are respectfully requested in light of the above amendments and the remarks that follow.

The Examiner notes an error in the citation of WO 2003/083512, specifically the publication date of that document. Applicants hereby submit a corrected PTO/SB/08/A form which indicates the October 9, 2003 publication date for WO 2003/083512. Consideration of the reference is respectfully requested.

The Examiner has objected to the specification for the reasons presented in paragraphs 5 and 6 on page 3 of the Official Action.

The spelling error in paragraph 25 has been corrected and language corresponding to that employed in originally filed claim 5 has been added to page 7, thereby overcoming the objection.

The Examiner has also objected to the language, "said at least one spring" in claim 10 since it is not clear which spring is intended.

By this Amendment, applicants have specified in claim 10 that it is the annular wave spring as originally recited in claim 7 from which claim 10 depends.

The Examiner has rejected claims 1-7, 8-12 and 20 under 35 U.S.C. §112, second paragraph, as indefinite. The Examiner notes that in claim 1, "photomultiplier tube assembly" remains although that term was deliberately altered in other instances in the Preliminary Amendment of May 18, 2004. By this Amendment, applicants have amended the claims where necessary to delete the word "assembly" so that the claims now consistently refer simply to a photomultiplier tube.

With respect to claim 11, that claim has been canceled, thereby rendering rejection moot.

The Examiner has rejected claims 21 and 24 under 35 U.S.C. § 102(b) as anticipated by Perna (US 4,994,673). Claims 21-24 have been canceled, thereby rendering the rejection moot.

The Examiner has rejected claims 1-6, 8, 9, 13, 15, 16, 18 and 20-24 under 35 U.S.C. § 103 as unpatentable over Frederick (US 5,962,855) in view of Nunes (US 3,704,877) for the reasons stated in paragraph 14 of the Official Action.

Independent claims 1 and 13 have been amended to require a plurality of flat elongated non-metallic springs that, in use, minimize the attenuation of gamma rays passing into the detector.

The principal reference to Frederick discloses elongated metal springs, for example, radial springs 418 positioned between sleeve 150 and shield 230 in Figure 13, noting that the sleeve 150 surrounds the scintillation element or crystal 414. It is respectfully submitted that the Frederick disclosure is focused on the use of metal springs, and that even the reference in column 15 to varying the material would in fact be regarded by one of ordinary skill in the art as referring to different metal compositions. More specifically, the language in column 15, lines 59-65 teaches how to adjust the springs to desired stiffness and force. It is clear from other portions of the patent that this is related to frequency tuning, such that high frequencies are obtained. In this regard, see also column 15, lines 40-50 and column 13, lines 1-5. Reference in the '855 patent to a desired frequency of greater than 800 Hertz is a clear indication that Frederick requires metal springs.

In the present invention, non-metallic (plastic or ceramic) springs are utilized to eliminate conductivity of the springs and to reduce attenuation of radiation passing into the detector. There is no concern for frequency, stiffness or friction. As a result, there is no disclosure in Frederick

that would have suggested the use of plastic or ceramic material for the flat elongated springs 375 or 418 extending radially between the crystal/photomultiplier tube and the housing.

The secondary reference to Nunes relates to a one-piece device for both storing and damping energy. According to the patentee, the device is formed in a spring shape of an energy controlling composite of at least two dissimilar materials that may be implemented in the form of a helical extension spring, tension rod or compression pad. As such, the Nunes reference has no relevance whatsoever to the utilization of discrete elongated flat springs in the context of a radiation detector environment as claimed.

Accordingly, the rejection as applied to independent claims 1 and 13 as well as remaining dependent claims 2-10, 12 and 14-19, respectively, is improper in that the applied combination of references is insufficient to establish prima facie obviousness with respect to the claimed subject matter. With regard to independent claim 20, that claim calls for ceramic radial suspension means located radially between the crystal/photomultiplier tube assembly and the housing, with the ceramic radial suspension means, in use, minimizing attenuation of gamma rays passing into the detector. Since the claimed "means" must be interpreted as the specifically disclosed means and equivalents thereof, it is respectfully submitted that for the same reasons presented above, the combination of Frederick and Nunes is insufficient to establish prima facie obviousness with respect to independent claim 20.


For all of the above reasons, it is respectfully submitted that the above application is now in condition for allowance, and early passage to issue is respectfully requested. In the event, however, any small matters remain outstanding, the Examiner is encouraged to telephone the undersigned so that the prosecution of this application can be expeditiously concluded.

CLARKE et al.
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The Commissioner is hereby authorized to charge any deficiency in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140.

Respectfully submitted,

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